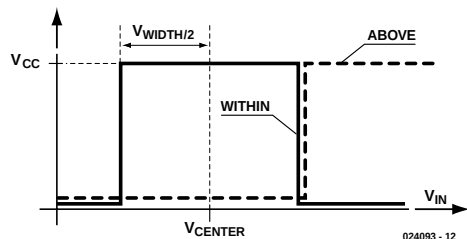


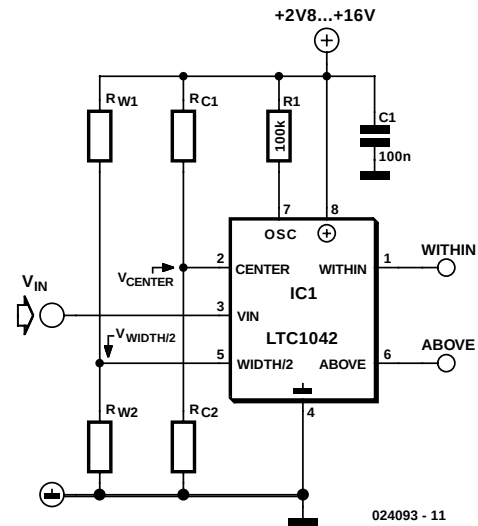
Window Comparator

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Many designs call for a window comparator to determine if a voltage level falls within two voltage thresholds. Linear Technology has produced a single chip solution to the problem with their LTC1042 device (www.linear-tech.com/pdf/Lt1042.pdf). This versatile chip is very simple to use and just requires an input voltage level to define the centre of the voltage window (potential divider chain R_{C1}/R_{C2}) and another voltage level to define half of the width of the window (R_{W1}/R_{W2}). A useful feature is that the window width is referenced to earth potential and is therefore independent of the window level. The WITHIN output goes high when input voltage V_{IN} is within the upper and lower thresholds of the window and the ABOVE output goes high when V_{IN} is above the upper window threshold. If you need a BELOW output to detect V_{IN} below the lower threshold then it's a simple job just to swap the two inputs V_{IN} and CENTRE. V_{IN} will now be connected to pin 2 and the cen-



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tre reference level to pin 3. Pin 6 will now be a BELOW output and will go high for V_{IN} less than the lower window threshold. The operating voltage is between +2.8 V und +16 V and a 100 K Ω resistor is necessary for the internal oscillator at pin 7 (OSC) up to the supply rail. The chip is supplied in an 8-pin Mini DIP outline.

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